

Föreståndaren

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BL/TH

Professor Joshua Lederberg  
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Dear Dr. Lederberg,

It was very interesting to see the two letter copies that you sent me on October 30. I am enclosing copies of some reports which partly illustrate my own standpoint and which seem to be remarkably well in line with your own thinking.

SSI: 1970-028

This is the text of a paper presented at a conference in Brighton in May this year. It contains the substance matter which Dr. Morgan refers to as having been mentioned by me at the ICRP meeting in London the following week.

You will notice that Dr. Hedgran and I have made an empirical approach, trying to find out what health physicists are in fact willing to pay for the reduction of one manrad. The number was found to be of the order of \$ 500 (our quantity "A" in Table 1, page 6). This is surprisingly identical to your own estimate on genetic grounds. You will also notice our estimate on page 3, based upon the assumption of a total cancer risk of  $10^{-4}$  per rad and a genetic risk of the same order of magnitude. The latter estimate does not include the effects of recessive gene mutations but is essentially an estimate of the first generation effects according to ICRP Publication 8 and the UNSCEAR reports. We would therefore be expected to arrive at a lower number than you. Our estimate is also very much depending upon the assumed "cost" of a human life. Nevertheless we arrive at \$ 100 per manrad, which, again, is very close to your own estimate. Incidentally, you might be criticized for not having included in your estimate any "cost" equivalent of the suffering of the individuals burdened by the biological effects but only the direct cost to society. Or is this included in your estimate of \$ 200 B for ill health costs in the U.S.A.?

We have not wanted to press the argument for a very high value of the equivalent cost of one manrad but have assumed that the value might well be \$ 200 per manrad (page 7). We have then looked at some consequences of this in the medical x-ray case (Table 2, page 9).

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This is a document in which Dr. Hedgran and I have tried to draw the conclusions of the present ICRP recommendations with regard to

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